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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/500,846      | 07/07/2004  | Koji Hirota          | 018765-158          | 8733             |

21839 7590 03/23/2006

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| EXAMINER |
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LAVILLA, MICHAEL E

|          |              |
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| ART UNIT | PAPER NUMBER |
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1775

DATE MAILED: 03/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/500,846

Applicant(s)

HIROTA ET AL.

Examiner

Michael La Villa

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 8-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>20040707</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:
2. The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
3. Claims 1-6 and 8-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
4. Regarding Claim 1, it is unclear whether the etching processing can result in complete elimination of the insulating layer or whether the claimed article necessarily possesses an insulating layer. It is unclear whether the claimed article comprises the claimed metal and oxygen composition in a metal oxide film or whether the claimed article, when subjected to a test, is to be observed to possess the claimed metal and oxygen composition in a metal oxide film. What does the phrase "measured at a time" imply? May there be a time when the metal oxide film is not present? It is unclear what defines a "main metal element." Is this the metal present in greatest amount by weight, or something else? It is unclear what is meant by the phrase "at least 0" angstroms. Does this mean that at least one atomic layer of metal and oxygen in equal atomic concentrations is present? Does the claim encompass a metal layer completely lacking in a metal oxide film?
5. Regarding Claim 2, it is unclear whether this claim refers to possible "main metal elements," or not necessarily.

6. Regarding Claim 4, it is unclear whether both or either of the SUS and “metal layer” of this claim are/is to satisfy the metal oxide film requirement of Claim 1.
7. Regarding Claim 5, it is unclear whether the claimed tri-layer necessarily is present in the listed order of layers.
8. Regarding Claims 6 and 10-13, it is unclear whether the manufactured products specified in these claims necessarily are encompassed by the structures described in the respective previous claims.
9. Regarding Claim 22, it is unclear whether the method produces an article that comprises the claimed metal and oxygen composition in a metal oxide film or whether the article, when subjected to a test, is to be observed to possess the claimed metal and oxygen composition in a metal oxide film. What does the phrase “measured at a time” imply? May there be a time when the metal oxide film is not present? It is unclear what defines a “main metal element.” Is this the metal present in greatest amount by weight, or something else? It is unclear what is meant by the phrase “at least 0” angstroms. Does this mean that at least one atomic layer of metal and oxygen in equal atomic concentrations is present? Does the claim encompass a metal layer completely lacking in a metal oxide film?

***Claim Rejections - 35 USC § 102***

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:
11. A person shall be entitled to a patent unless –

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12. (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
13. (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
14. (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.
15. Claims 1-6 and 8-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Yagi et al. USPA 2002/0027127. Yagi et al. teaches laminating polyimide with copper and SUS for making flexure for hard disc suspensions. Yagi et al. teaches that such flexures may be formed by plasma and/or alkaline wet etching. Yagi et al. does not teach that the metal layers have a metal oxide layer. However, the claim may allow for an oxide layer of zero thickness, which would be expected to be obtained inherently by the metal layers of Yagi which are not pretreated as applicant's have been in order to have the metal oxide layer structure. See Yagi et al. (Abstract; paragraphs 48-64 and 72-79).
16. Claims 1-6 and 8-22 are rejected under 35 U.S.C. 102(a) as being anticipated by Sakayori et al. JP 2002-246708. Sakayori et al. '708 teaches laminating polyimide with copper and SUS for making flexure for hard disk suspensions. Sakayori et al. '708 teaches that such flexures may be formed by plasma and/or alkaline wet etching. Sakayori et al. '708 does not teach that the metal layers have a metal oxide layer. However, the claim may allow for an oxide layer of zero thickness, which would be expected to be obtained inherently by the metal

layers of Sakayori et al. '708 which are not pretreated as applicant's have been in order to have the metal oxide layer structure. See Sakayori '708 (paragraphs 41-57).

17. Claims 1-6 and 8-22 are rejected under 35 U.S.C. 102(3) as being anticipated by Sakayori et al. USPA 2003/0085451. Sakayori et al. '451 teaches laminating polyimide with copper and SUS for making flexure for hard disk suspensions. Sakayori et al. '451 teaches that such flexures may be formed by plasma and/or alkaline wet etching. Sakayori et al. '451 does not teach that the metal layers have a metal oxide layer. However, the claim may allow for an oxide layer of zero thickness, which would be expected to be obtained inherently by the metal layers of Sakayori '451 which are not pretreated as applicant's have been in order to have the metal oxide layer structure. See Sakayori '451 (paragraphs 193 and 299-308; and Figure 1).

### ***Conclusion***


18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael La Villa whose telephone number is (571) 272-1539. The examiner can normally be reached on Monday through Friday.

19. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on (571) 272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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20. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael La Villa  
20 March 2006

  
MICHAEL E. LAVILLA PH.D.  
PRIMARY EXAMINER